

Claims

1. Method for heat treating cast parts produced from a light metal melt, in particular an aluminium melt, wherein the cast part is quenched after an annealing treatment or is quenched from the casting heat, after quenching is cooled to a low temperature and following low temperature cooling is suddenly heated to a high temperature in that it is immersed in a salt melt, of which the temperature is above the boiling temperature of water at normal pressure.
2. Method according to Claim 1, characterised in that the cast part is quenched with the aid of water.
3. Method according to either of the preceding claims, characterised in that the low temperature is less than -180°C .
4. Method according to any one of the preceding claims, characterised in that, for cooling to the low temperature, the cast part is immersed in liquid nitrogen.
5. Method according to any one of the preceding claims, characterised in that the cast part is cooled to the low temperature until its core temperature is substantially equal to the low temperature.
6. Method according to any one of the preceding claims, characterised in that the salt melt is heated to at least 150°C .
7. Method according to Claim 6, characterised in that the salt melt is heated to at least 250°C .
8. Method according to any one of the preceding claims, characterised in that the salt melt has a salt concentration of at least 98% by weight.
9. Method according to any one of the preceding claims, characterised in that the nitrates and/or chromates, in particular alkali metal nitrates and chromates or alkaline

earth metal nitrates and chromates, such as NaNO_3 , KNO_3 or Na_2CrO_4 , are used as the salts.

10. Method according to any one of the preceding claims, characterised in that the cast parts are cylinder heads.

11. Method according to any one of Claims 1 to 9, characterised in that the cast parts are motor units.